

Negative perceptions of race relations: A brief report examining the impact of news media coverage of police shootings, and actual fatal police shootings

Christopher J. Ferguson

QUERY SHEET

This page lists questions we have about your paper. The numbers displayed at left are hyperlinked to the location of the query in your paper.

The title and author names are listed on this sheet as they will be published, both on your paper and on the Table of Contents. Please review and ensure the information is correct and advise us if any changes need to be made. In addition, please review your paper as a whole for typographical and essential corrections.

Your PDF proof has been enabled so that you can comment on the proof directly using Adobe Acrobat. For further information on marking corrections using Acrobat, please visit <http://journalauthors.tandf.co.uk/production/acrobat.asp>; <https://authorservices.taylorandfrancis.com/how-to-correct-proofs-with-adobe/>

The CrossRef database (www.crossref.org/) has been used to validate the references. Changes resulting from mismatches are tracked in red font.

AUTHOR QUERIES

- Q1** Please provide missing affiliation details for the author as per the journal style.
- Q2** The reference “Tennessee v Garner, 1985” is cited in the text but is not listed in the references list. Please either delete in-text citation or provide full reference details following journal style [APA-7]
- Q3** The reference “Graham v Connor, 1989” is cited in the text but is not listed in the references list. Please either delete in-text citation or provide full reference details following journal style [APA-7]
- Q4** Please check and confirm the edits made to the sentence [Put another way ...].
- Q5** Please check and confirm the edits made to the sentence [However, we also ...].
- Q6** The disclosure statement has been inserted. Please correct if this is inaccurate.
- Q7** The PubMed (<http://www.ncbi.nlm.nih.gov/pubmed>) and CrossRef (www.crossref.org/) databases have been used to validate the references. Mismatches between the original manuscript and PubMed or CrossRef are tracked in red font. Please provide a revision if the change is incorrect. Do not comment on correct changes.
- Q8** Please provide missing Issue for the “Hemenway et al., 2020” references list entry.
- Q9** Please provide missing Issue/page number/volume number for the “McWhorter, 2020a” references list entry.
- Q10** Please provide missing publisher name for the “McWhorter, 2020b” references list entry.



Negative perceptions of race relations: A brief report examining the impact of news media coverage of police shootings, and actual fatal police shootings

Q1 Christopher J. Ferguson

ABSTRACT

Data from several polling companies have suggested a precipitous decline in perceptions of race relations over the past decade. This study sought to examine whether national perceptions of race relations were shaped more by actual fatal shootings of unarmed Black men or by news media coverage of police shootings or, put more directly, whether it had a factual basis or was driven by societal narratives. Time series analysis examined the correlation between perceptions of race relations against both actual fatal police shootings of unarmed Black men as opposed to a leading national newspaper's coverage of police shootings. Results indicated that perceptions of race relations were correlated with news media coverage but not actual fatal police shootings of unarmed Black men. However, the examination of residuals revealed no correlation between these. These results suggest that race relations are associated with news media coverage in ways that reflect underlying cultural shifts rather than direct association.

ARTICLE HISTORY

Received 9 July 2021
Revised 10 September 2021
Accepted 29 September 2021

KEYWORDS

Race relations; police shootings; news media; cultivation theory

5

10

15

For a multiethnic state to function adequately, individuals from different racial and ethnic groups ideally must feel represented by the state and reasonably in cooperation with each other. Historically, due to slavery and Jim Crow, as well as anti-immigration worldviews, this has not always been the reality for the United States. Yet, progress has been made since the civil rights area, though areas of strain remain. Are we moving closer to positive race relations or further away? Data from the Gallup polls show interesting and clear trends in White and Black Americans' perceptions of race relations across the past two decades (Gallup, 2020). As indicated by the Gallup data, through the first decade of this century, perceptions of race relations remained reasonably steady and positive. This continued until roughly 2013 when reasonably consistent with previous years, 72% of White and 66% of Black adults perceived race relations as very or somewhat good. By 2020 those numbers had sunk steadily to 46% of Whites and 36% of Blacks. What is less clear is why this steady and precipitous decline began in 2014 and continues to the present day. It is possible that a decline in race relations may reflect a backsliding in rights or well-being experienced by some minority racial groups. However, economic well-being has generally increased for most racial minorities (some even exceed the well-being of White Americans), whereas issues such as fatal police shootings of unarmed individuals of any race are rare (Reilly, 2020). Thus, this decline does not appear to be easily explained by the reality of worsening conditions for racial minorities in the United States. Thus, it is worth examining what other factors may be worsening race relations. Doing so can help formulate interventions geared toward reversing this recent trend.

20

25

30

35

Perceptions of poor racial progress in the United States may relate to the perceptions of disparities related to unfair treatment, 'systemic racism' or other concepts. As noted above, these perceptions may be shaped by reality, but may also be shaped by social narratives (or news media narratives

40

specifically), which may tend to highlight negative news, creating a false impression of worsening conditions. For instance, one possibility is the perception that police killings of unarmed Black citizens are common or have increased over time (McCaffree & Saide, 2021). Deaths of unarmed Black individuals such as Eric Garner or George Kelly have gotten national attention and deservedly so. Such news attention can highlight injustices and provide the impetus for better training of police officers or criminal justice reform more broadly. However, data on police killings of unarmed individuals are complex, and data has been mixed whether race is a causal factor, as opposed to socioeconomic factors, mental health, etc. (e.g., Cesario et al., 2019; Fryer, 2016; Hemenway et al., 2020; Scott et al., 2017). The data suggest some nuances and complexities, such as that officers may be discriminatory toward Black adults regarding lower-level police use of force, but that discrimination is less a factor in fatal police shootings (Fryer, 2016).

One concern that has been raised is news media may not be reporting on the complexities of this issue in an accurate way. For instance, McWhorter (2020a) has noted news media's tendency to ignore police shootings when victims are unarmed Whites or failure to note fatal shootings of unarmed Black adults are uncommon and decreasing. By creating a social narrative that is not necessarily factual, creates a misleading impression of the widespread and indiscriminate fatal shooting of Black adults by police (McWhorter, 2020a). Supporting this concern McCaffree and Saide (2021) found that most Americans overestimate the frequency of fatal police shootings of unarmed Black men, though this was differentiated by political affiliation with overestimates more common on the political left. News media narratives can lead to availability heuristics wherein individuals overestimate the frequency of an event, particularly in ways that may support their perception of their ingroup (Yamashiro & Roediger, 2021).

One important data point and arguably positive news is that fatal police shootings of unarmed Black men have been declining over time. It is important to note that Black men continue to be shot by police at disproportionate rates compared to White men (though this data point is nuanced given more overall contact between Black men with police).¹ However, rates are much lower than in the 1960s and 70s (Males, 2014), likely due both due to the civil rights movements as well as decisions of the US Supreme Court limiting police use of force (e.g., *Tennessee v Garner*, 1985; *Graham v Connor*, 1989). According to a compiled database provided by the Washington Post (2021), fatal police shootings of unarmed Black individuals are uncommon and have been experiencing a year-to-year decline. Though the ideal number of such shootings is zero, this still represents important information news media coverage may be neglecting this context. This data on fatal police shootings of unarmed Black men are presented in Figure 1.

Cultivation theory suggests that news media can be an important source of beliefs, attitudes, and anxiety about crime (Roche et al., 2016). It is not unreasonable to suspect that concerns about fatal police shootings may influence race relations. However, it is important to understand the degree to, which this is representative of actual data on fatal shootings or news media coverage of the same which may not always be accurate. Put another way, our perceptions of race relations based on actual data suggesting a worsening of conditions for racial minorities, or are news media narratives misinforming the reading and viewing public in ways potentially detrimental to consumers and society? At present, little data has fully elucidated mechanisms that explains the reversal of race relation trends beginning in 2014. Better understanding the mechanisms behind these trends can provide policymakers with sound data to help reverse this decline and improve race relations. This can be tested with time series analysis, and the present study hopes to elucidate these trends.

Methods

The analyses for the present paper were preregistered and can be found at: https://aspredicted.org/see_one.php. As noted in the preregistrations, the data for this study are publicly available, but none of the data from these sources were collected prior to the preregistration.

¹Ethic proportionality is roughly equivalent for unarmed individuals killed by police as compared to perpetrators of homicides of police officers, for instance. See (Federal Bureau of Investigation, 2017).

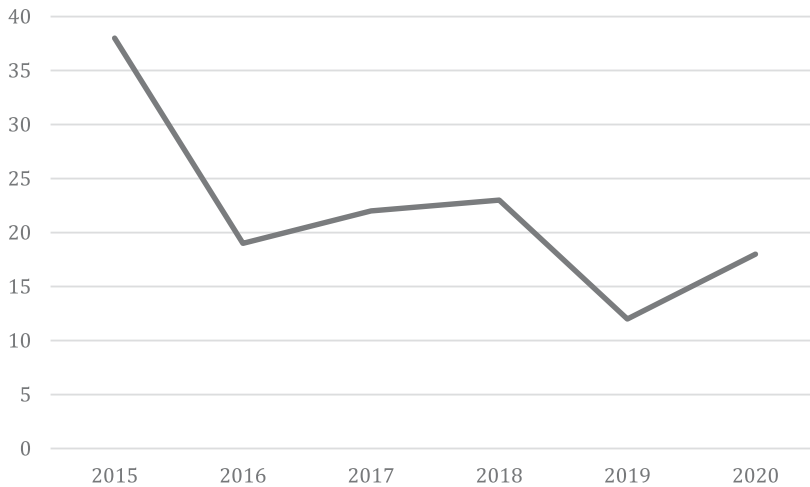


Figure 1. Frequency of police shootings of unarmed Black adults by year.

Data sources

Race relations

Outcome data on race relations were provided by the polling and data firm Civiqs (2021), which provides daily figures on race relations beginning on 9 December 2016 and continuing to the present day (data collection was stopped on 2/15/21). The data includes over 200,000 individual responses from nationally representative online panels of US adults 18 + . The panel is nationally representative for age (18+), sex and race. The panel uses statistical tracking models to correct for random daily fluctuations between samples and the population. Civiqs asks respondents a single question ‘Do you think race relations in the United States are . . . ’ with response options for getting worse, getting better or staying the same. The current analysis examined proportions of ‘getting worse.’ During this time period, proportions of individuals suggesting things were getting worse ranged from approximately 72% to lows of 46%. The Civiqs data were used, as opposed to the Gallup data, as they allowed for day-to-day analysis and, as such, more data points for the time series analysis giving it more power.

Fatal police shootings of unarmed Black individuals

A database of fatal police shootings is maintained by the Washington Post and is one of several databases commonly used for such data (Washington Post, 2021). This database is searchable by multiple variables such as race, gender, possession of a weapon. For the current analysis, Black individuals who were unarmed were selected so as to examine the frequency of such shootings over time.

News media coverage

The Nexus/Lexis database was used to search for the term ‘police shootings’ during the time frame of the study. The New York Times (NYT) was selected as a source. A single source was selected so as to prevent multiple repetitions of the same article across sources and because the NYT is the ‘national paper of record’ and distributed and read nationally and internationally. Thus, it provides a reasonable index of the frequency of articles covering this topic in mainstream media.

Statistical procedures

These data provide three data sources (NYT news coverage, actual fatal police shootings, and race relations data). All three sources are, in effect, continuous time series. We can thus examine for interrelations or correlations between these time series to examine how they predict one another.

Initial examination for correlations can be made with bivariate correlations. However, bivariate correlations between time series can sometimes create spurious results due to autocorrelations within the time series. A way of thinking of this is that two variables can potentially move together as part of a larger pattern, yet fluctuations in one variable do not necessarily correspond to fluctuations in the other, suggesting they are not necessarily influencing or predicting one another on a more precise level. This can be adjusted for using the Box-Jenkins approach of fitting a time series to an autoregressive integrated moving average (ARIMA) model (Box et al., 2008). This approach examines for and removes trends in the data, a process called prewhitening, which results in a series of residuals (deviations from the trends) for each series. This is accomplished by using the differencing function in sequence charts to examine the pattern in a variable over time. First level differencing can be used to remove linear trends, second-order distancing for quadratic. By then using the autocorrelations function in SPSS, autocorrelations can be identified at different time lags in a variable's time sequence. By identifying the pattern of autocorrelations and partial correlations at different lags, the proper ARIMA model can then be identified. ARIMA modeling is then used via syntax in SPSS (see Tabachnick & Fidell, 2019) to create residuals or the degree to which each point in a time series deviates from the pattern in the series. By examining correlations between these residuals, it is possible to examine, not just the broader trends but whether deviations from those trends in one-time series are predictive of deviations in the other time series. These correlations are examined using the cross-correlation function (CCF), which tests both concurrent and lagged correlations between the time series. In this case, 60 one-day lags were examined, or approximately 2 months. Data were available for every day during the date range resulting in 1530 observations.

Results

Bivariate correlations revealed that negative perceptions of race relations were associated with NYT coverage of police shootings ($r = .167, p < .001$), but not actual fatal shootings of unarmed Black men ($r = .013, p = .621$). Examination of the sequence charts for actual fatal shootings revealed a lack of autocorrelation, likely due to the discrete nature of individual events as well as their comparative rarity in the dataset (there were a total of 74 fatal shootings of unarmed Black individuals in the United States across 1530 days). As such ARIMA models were not fitted for actual shootings. A chart of the patterns in race relations and news articles of police shootings is presented in Figure 2 whereas Figure 3 presents a chart of the patterns in race relations and actual fatal police shootings of unarmed Black individuals.

Examination of sequence charts and autocorrelations for the race relations variable revealed that a (2,1,0) ARIMA model was the best fit to remove autocorrelations. For the news media/NYT data, a (1,0,0) model proved the best fit. Analysis of the correlation between the fitted sequence model for race relations revealed that this remained correlated with the fitted model for news media ($r = .172, p < .001$) but not actual fatal shootings ($r = .013, p = .616$).

However, analysis of the residuals using the CCF function revealed that the residuals for race relations and news media remained uncorrelated out to 60 lags. As such, it appears that news media and race relations are correlated, but that deviations within their series do not predict one another out to at least a 2-month lag. This is to say, the two-time series are broadly correlated, but the evidence suggests the absence of a direct causal relationship.

Discussion

Race relations have declined precipitously over the past decade, and it is important to understand why. People can undoubtedly highlight specific anecdotal events that have inflamed tensions, whether the deaths of specific individuals at police hands, the racialized statements of politicians on both sides of the aisle (including a former president) or other events. These anecdotes form part of the pattern of racial discontent, however, noting these do not explain our renewed focus on these negative anecdotes, even as larger trends in racial progress are positive (Reilly, 2020). On the issue of fatal police shootings, the current analysis suggests that actual data on fatal police shootings are

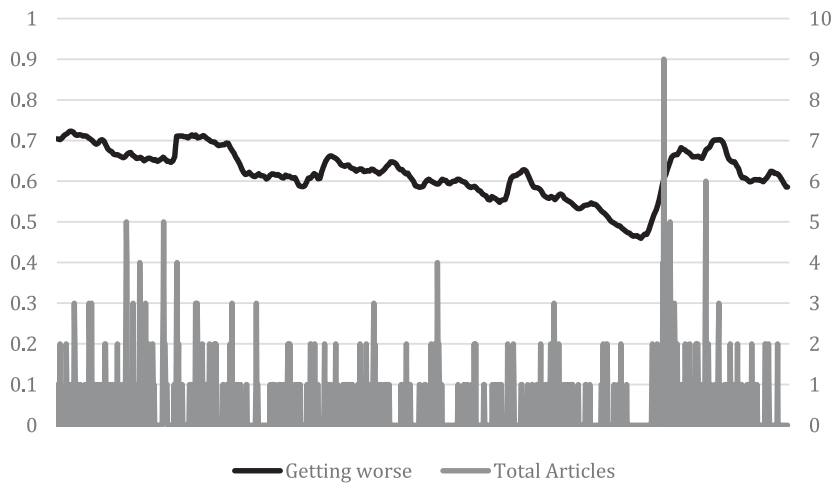


Figure 2. Race relations and news articles on police shootings over time.

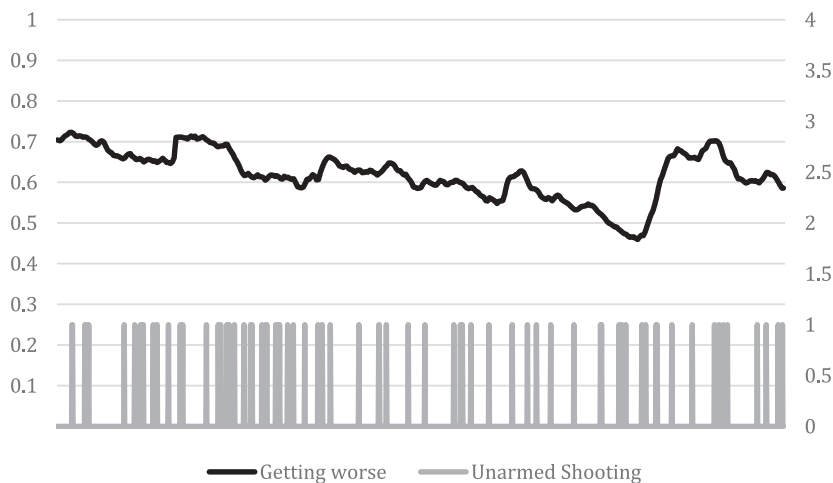


Figure 3. Race relations and actual fatal police shootings of unarmed Black individuals over time.

unrelated to race relations. However, race relations and news media coverage, as indicated by articles in the NYT, are correlated at least to a small degree. However, an examination of residuals suggests that changes in one-time series are not predictive of each other. This means that the two-time series predict each other, but this does not appear to be causal in nature, rather two outcomes produced by a larger and, as of yet, unidentified causal agent. These analyses begin to provide some clues as to the nature of the phenomenon. 165

One explanation is that practical issues around race have worsened over the past decade. For instance, the American Psychological Association has referred to a 'pandemic' of racism in the United States (American Psychological Association, 2020). Though this terminology may seem ill-defined (and perhaps obviously influenced by the concurrent Covid-19 pandemic), it can be understood in the context of a national president (Trump) who, himself, often used racist language and stoked racial disharmony (Clayton et al., 2019). Nonetheless, others have suggested that the data from multiple indices suggest improvements on most racial outcomes and the potential that many which remain have more to do with social class than race per se (Reilly, 2020). It is well beyond the scope of this 170 175

paper to address these debates other than to note that, on the issue of fatal police shootings of unarmed Black individuals, the trend has been decreasing. Again, it should be reiterated that no unarmed individuals of any race should be shot, and every such incidence is a startling failure of the criminal justice system. Nonetheless, although many disparities remain, in the absence of data to support a *worsening* pattern to practical outcomes, these do not appear to be a driving force. At least on the issue of police shootings, this conclusion is supported by noting a lack of any correlation between fatal shootings and race relations. This effect size is so small ($r = .013$) it cannot be attributed to Type II error. 180

By contrast, a correlation between news media *reporting* on police shootings and race relations was significant, albeit the effect size was small. This raises the possibility that either news media narratives are worsening race relations or the inverse, or there is a parallel process with each worsening the other. However, correction for autocorrelations suggested that fluctuations in one time series did not predict fluctuations in the other. This suggests these time series are not directly influencing or predicting one another but maybe part of a larger cultural pattern with unknown etiology. One possibility may be the increased cultural rhetoric around identity politics and race essentialism on both right and left. Stoked by both White nationalism on the right, and the race essentialism of Critical Race Theory on the left (see McWhorter, 2020b), an increased focus on grievances between racial groups and divisiveness across race may be reversing efforts to promote unity, empathy, and shared humanity between racial groups. 185
190
195

This last point is speculative, of course, but does point to some potential avenues of research, particularly in examining the degree to which exposure to beliefs in race essentialism from both right and left (and including in academia) may worsen race relations. At present, data suggests we have a clear pattern of worsening race relations but little clarity on why this is occurring and how this pattern may be reversed. 200

It is worth noting that available data focus on fatal police shootings and, by contrast, there is no national database of non-fatal police shootings (in which an individual is non-fatally wounded or police miss entirely). This makes it more difficult to track the prevalence of such shootings. Though evidence suggests a declining fatal shooting trend over time, it is not clear if this also applies to non-fatal shootings, which also may receive less news media attention. 205

As with most studies, this one has limitations that are important to highlight and which also provide avenues for future research. First, the current data only considered December 2016 through February 2021. Data which examined the fuller period dating to the early 2000s would be valuable. Similarly, in the current dataset, perceptions of race relations were not separated by the ethnicity of the respondent. Patterns in the Gallup poll data suggest that Black and White perceptions of race relations tend to be highly similar, though closer examination of this issue would be warranted. Second, the current data examined data at the daily level. It is possible this could create a fair amount of noise, making time-series patterns more difficult to detect. Future research could consider data at the monthly or weekly level to see if patterns are clearer. Third, it might be argued that the absence of correlation between race relations and actual fatal police shootings may be due to the comparative rarity of the latter. However, this would need to acknowledge exactly the perspective that appears lacking in current news media narratives and does not explain the correlation between news media and race relations. Further, given actual fatal police shootings have been declining, it would otherwise have been expected to see an inverse correlation with race relations, but this was not observed. The lack of any correlation suggests that race relations are not based in or informed by the actual data on fatal police shootings. Lastly, the current analysis examined only fatal police shootings of unarmed Black individuals as an issue. Other research could look at other areas of concern, including other facets of the criminal justice system, health disparities, etc. 210
215
220

It appears critical to understand the nuances of sudden changes in race relations beginning in 2014, as well as the social narratives that have evolved around the same on both the political left and right. The current data suggest that, at least on the issue of fatal police shootings, actual events are not a primary driving force, and there are complex social processes at play. I wish to be clear that current 225

data should not be interpreted as a critique of efforts to reform the criminal justice system, which I fully support and believe is long overdue and beneficial to all Americans. However, we also must instigate cautious, preregistered, data-based analyses of these phenomena free of social and political pressures. 230

Q5

Disclosure statement

No potential conflict of interest was reported by the author(s). 235

Q6

References

Q7

- American Psychological Association. (2020). 'We are living in a racism pandemic,' Says APA President. <https://www.apa.org/news/press/releases/2020/05/racism-pandemic>
- Box, G. E., Jenkins, G. M., & Reinsel, G. C. (2008). *Time series analysis: Forecasting and control*. Wiley. <https://doi.org/10.1002/9781118619193> 240
- Cesario, J., Johnson, D. J., & Terrill, W. (2019). Is there evidence of racial disparity in police use of deadly force? Analyses of officer-involved fatal shootings in 2015–2016. *Social Psychological and Personality Science*, 10(5), 586–595. <https://doi.org/10.1177/1948550618775108>
- Civiqs. (2021). *Race relations*. https://civiqs.com/results/race_relations?uncertainty=true&annotations=true&zoomIn=true 245
- Clayton, D. M., Moore, S. E., & Jones-Eversley, S. D. (2019). The impact of Donald Trump's presidency on the well-being of African Americans. *Journal of Black Studies*, 50(8), 707–730. <https://doi.org/10.1177/0021934719885627>
- Federal Bureau of Investigation. (2017). *Officers feloniously killed*. https://ucr.fbi.gov/leoka/2017/topic-pages/felonious_topic_page_-2017
- Fryer, R. (2016). *An empirical analysis of racial differences in police use of force*. National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w22399/w22399.pdf 250
- Gallup. (2020). *Race relations*. <https://news.gallup.com/poll/1687/race-relations.aspx>
- Hemenway, D., Berrigan, J., Azrael, D., Barber, C., & Miller, M. (2020). Fatal police shootings of civilians, by rurality. *Preventive Medicine: An International Journal Devoted to Practice and Theory*, 134, 106046. <https://doi.org/10.1016/j.ypmed.2020.106046> 255
- Males, M. (2014). *Who are police killing?* Center for Juvenile and Criminal Justice. <http://www.cjcj.org/news/8113>
- McCaffree, K., & Saide, A. (2021). *How informed are Americans about race and policing?* Skeptic Research Center, CUPES007.
- McWhorter, J. (2020a). Racist police violence reconsidered. *Quillette*. <https://quillette.com/2020/06/11/racist-police-violence-reconsidered/> 260
- McWhorter, J. (2020b). *The dehumanizing condescension of white fragility*. The Atlantic. <https://www.theatlantic.com/ideas/archive/2020/07/dehumanizing-condescension-white-fragility/614146/>
- Reilly, W. (2020). *Taboo: 10 facts you can't talk about*. Regnery Publishing.
- Roche, S. P., Pickett, J. T., & Gertz, M. (2016). The scary world of online news? Internet news exposure and public attitudes toward crime and justice. *Journal of Quantitative Criminology*, 32(2), 215–236. <https://doi.org/10.1007/s10940-015-9261-x> 265
- Scott, K., Ma, D. S., Sadler, M. S., & Correll, J. (2017). A social scientific approach toward understanding racial disparities in police shooting: Data from the Department of Justice (1980–2000). *Journal of Social Issues*, 73(4), 701–722. <https://doi.org/10.1111/josi.12243>
- Tabachnick, B., & Fidell, L. (2019). *Using multivariate statistics* (7th ed.). Pearson. 270
- Washington Post. (2021). *Fatal force*. Washington Post. <https://www.washingtonpost.com/graphics/investigations/police-shootings-database/>
- Yamashiro, J. K., & Roediger, H. L., III. (2021). Biased collective memories and historical overclaiming: An availability heuristic account. *Memory & Cognition*, 49(2), 311–322. <https://doi.org/10.3758/s13421-020-01090-w>

Q8

Q9

Q10